

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-311416

(43)Date of publication of application : 23.10.2002

(51)Int.Cl.

G02F 1/133

G09F 9/00

G09G 3/20

G09G 3/34

(21)Application number : 2001-116513

(71)Applicant : SHARP CORP

(22)Date of filing : 16.04.2001

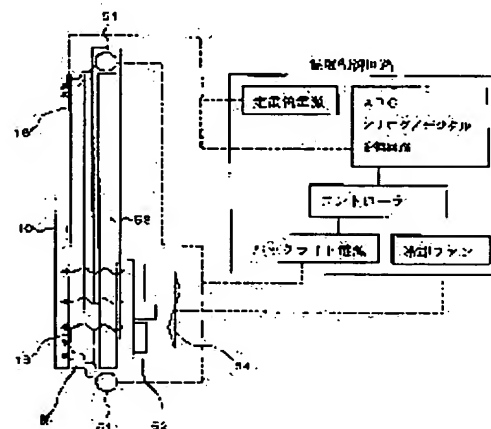
(72)Inventor : OKANO NOBUO

(54) LIQUID CRYSTAL DISPLAY DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent the display characteristics of a liquid crystal display panel 10 from being changed by temperature fluctuation.

SOLUTION: The temperature of the liquid crystal display panel 10 is kept constant by a temperature adjusting means provided with a temperature sensor 16 formed integrally with the liquid crystal display panel 10 and a temperature controlling circuit for controlling a cooling fan 54 or a backlight.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

BEST AVAILABLE COPY

**Japanese Publication for Unexamined Patent
Application No. 311416/2002 (*Tokukai* 2002-311416)**

A. Relevance of the Above-identified Document

This document has relevance to all of the claims of the present application.

B. Translation of the Relevant Passages of the Document

See the attached English Abstract.

(DETAILED DESCRIPTION OF THE INVENTION)

(INDUSTRIAL FIELD OF THE INVENTION)

[0013] According to the arrangement of the present invention, the temperature of the liquid crystal display panel can be accurately measured by arranging the thermal sensor of the temperature control means, on the same substrate on which the thin film transistor for driving liquid crystal is formed. Further, the temperature of the liquid crystal display panel can be kept constant, because the temperature control circuit controls the drive of the cooling fan and the backlight, corresponding to the temperature of the display panel.

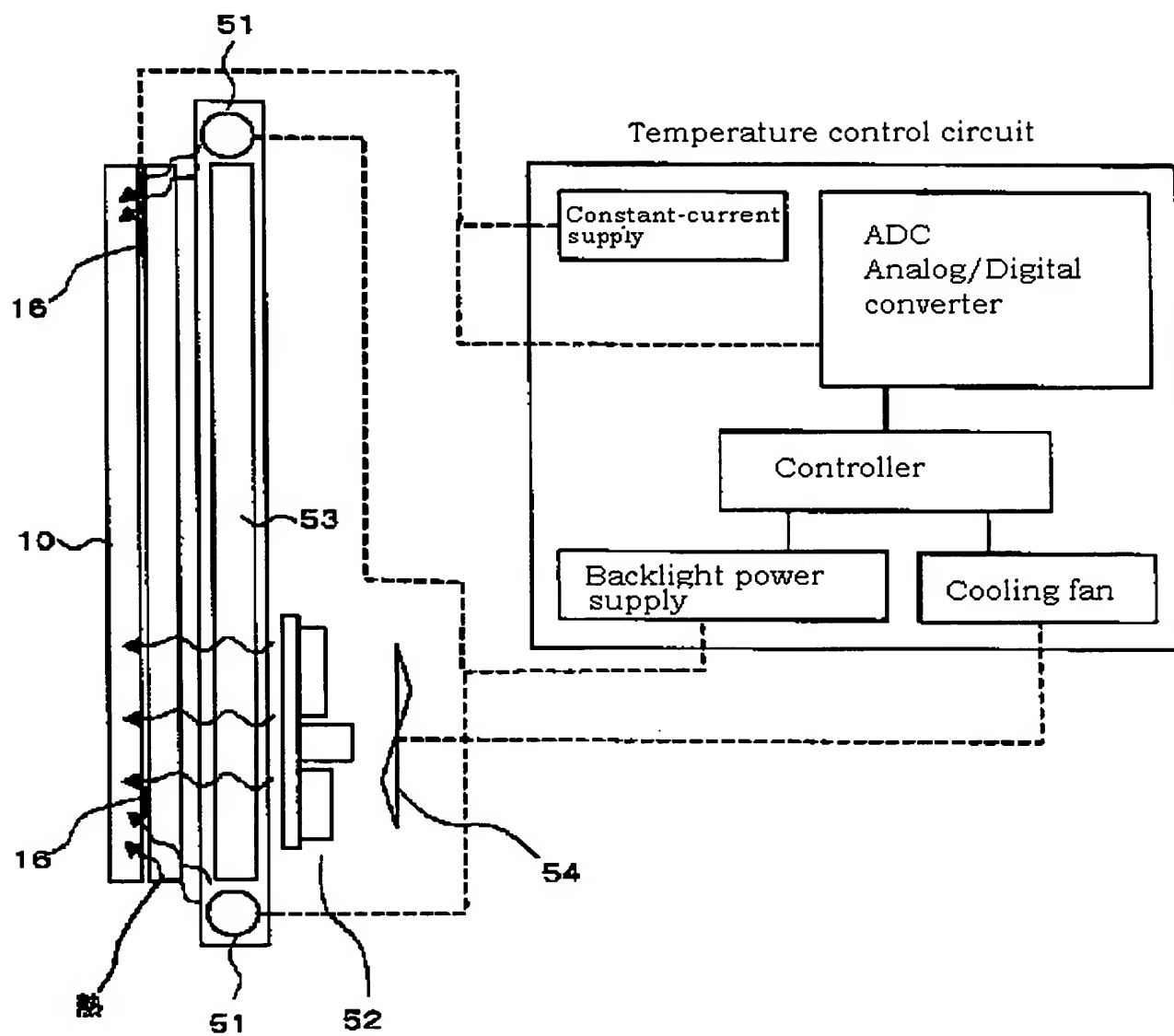
(REFERENCE NUMERALS)

10 Liquid crystal display panel

11 Display area

12 Gate driver terminal block

- 13 Source driver terminal block
- 14 Thin film transistor for driving liquid crystal
- 15 Pixel electrode
- 16 Thermo sensor
- 30 Substrate
- 31 Gate electrode
- 32 Insulation layer
- 33 Semiconductor layer (I layer)
- 34 Semiconductor layer (N+ layer)
- 35 Source electrode
- 36 Drain electrode
- 51 Fluorescent lamp
- 52 Power source circuit section
- 53 Light guiding plate
- 54 Cooling fan



BEST AVAILABLE COPY